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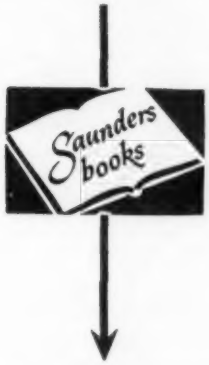

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IN THIS ISSUE

Anthony Mannino

Anthony J. Mannino, R.N., author of the article "Communication Skills for Student Nurses," is a graduate of the Pennsylvania Hospital School of Nursing for Men and now Associate Director of that school. Following graduation, Mr. Mannino was employed for one year at the Pennsylvania Hospital, Department for Mental and Nervous Diseases, six months of which he spent on General Duty and the other six months as Charge Nurse of the Observation Service. After this he was an instructor for eight years in the School of Nursing for Men. He then served as Educational Director until he was appointed to his present position. Mr. Mannino earned the B.S. and M.S. degrees in Education at the University of Pennsylvania in Philadelphia and at present is studying for the Ed.D. degree. His suggestions for improvement of Communication Skills for Student Nurses appear on page 8.

We are grateful to Miss Ione L. Ripley, Regional Adviser in Public Health Nursing at the Regional Office of the World Health Organization, for her article on page 11. Miss Ripley worked overnight to prepare this article before rushing off to Mexico City for the Fourth Regional Congress on Nursing, sponsored by the Pan American Sanitary Bureau in Washington, D. C. Miss Ripley's survey of nurses' contributions to world health during the first decade of the WHO should cause nurses to feel proud of their colleagues. The necessity for still more extensive work is plainly seen in the survey, however, and anyone who feels an urge to participate in world health activities of the future will find information about opportunities on page 25 of this issue.

George P. Koeck

Current trends in the treatment of cancer by radiotherapy are described (page 22) by George P. Koeck, M.D., Director of Radiotherapy at St. Michael's Hospital, Newark. He is also director of the Black-Stevenson Therapy Center in the Presbyterian Hospital, Newark, N. J., where two large radioactive cobalt therapy machines are now being installed. After graduation (from New York University College of Medicine), internship and residencies, Dr. Koeck began post-graduate training in radiology while in the Navy and had special training in cancer and radiology at New York City's Memorial Hospital and Mt. Sinai Hospital.

Dr. Koeck is a member of the American College of Radiology, the Radiologic Society of North America, the Radiologic Society of New Jersey, the AMA, and Chairman of the Cancer Committee of the New Jersey State Medical Society.

On page 26, Ruth Boyer Scott, R.N., continues her series of articles about practical nursing by describing the duties and responsibilities of a practical nurse who has a cardiac patient.

Nursing World Reports

International: Nurses from almost every country in the Hemisphere assembled in Mexico City's Palace of Fine Arts on September 9th for the inaugural opening of the Fourth Regional Congress on Nursing. Sponsored by the Mexican Government and the Pan American Sanitary Bureau, Regional Office of the World Health Organization, with the collaboration of the Mexican Association of Nurses, some 500 nurses met to discuss the broad topic of "Principles of Administration in Nursing." This topic was broken down for discussion by round-table groups of 30 persons each as follows: (1) Administration in public health nursing services, (2) Administration in hospital nursing services, (3) Administration in schools of nursing, (4) Administration in auxiliary nursing personnel programs, and (5) Planning a nursing school curriculum to meet the needs of a country.

The American Nurses' Association is participating in a new government-sponsored plan whereby professional groups in the United States can help their colleagues in other countries to keep abreast of developments in their fields. The ANA is reported to be one of the first seven organizations to take part in this program initiated by the International Cooperation Administration. It is designed to provide continuing information and help to foreign technical specialists, including nurses, who have received training in this country under ICA's technical assistance programs.

An important milestone in the U. S. partnership program with Indonesia was passed in July, 1956. The Indonesian Ministry of Health assumed complete responsibility for the Bandung Post Graduate School of Nurse Teachers. The School was opened on May 1, 1952, and developed with United States (ICA) assistance. More than 30 qualified teachers of nursing have been graduated from the Bandung School. Eight of these nurse-teachers, after additional training in the United States, have returned to important posts at the School, according to reports from the International Cooperation Administration.

The International Council of Nurses Congress will convene in Rome, Italy, May 27th to June 1st (inclusive), 1957. Application forms may be secured on request from ANA. They should be returned to ANA by January 15, 1957, together with the registration fee.

National: A study of nurses' salaries and other employment conditions has been included in surveys of the U. S. Department of Labor. The study will cover various categories of hospital employees, including nurses, in representative hospitals in approximately 20 urban areas throughout the country. According to *ANA Guide Lines* this is the first time that nurses' salaries and employment conditions have been studied in this way. The data for the study are being collected by the Bureau of Labor Statistics' Field Agents, who visit the hospitals. The ANA states that the data will be extremely helpful in that it will be useful in developing minimum employment standards, in carrying out economic security programs, in compiling testimony or statements for Congress and state legislatures in connection with legislation of interest to nurses, and in informing the public about the nursing profession.

The Health Amendments Act of 1956, passed by the Congress on July 23 and signed by President Eisenhower as Public Law 911 on August 2, establishes a yearly program for each of three years, to provide graduate or specialized training for qualified nurses. The Public Health Service will administer the program. Provision for graduate nurse training is contained in two sections of the Act. Title I authorizes one million dollars for the period July 1, 1956, to June 30, 1957, for training in public health for physicians, nurses, engineers and other health personnel. The emphasis in Title I, as far as nursing is concerned, is on preparation for staff positions in public health nursing. For information on traineeships for this purpose write to: Chief, Division of General Health Services, Bureau of State Services, Department of Health, Education, and Welfare, Washington 25, D. C.

Title II authorizes two million dollars for the 1956-1957 year for advanced preparation of nurses for administrative, supervisory and teaching positions in all fields of nursing. Detailed information on this program is presented under the following headings:

Purpose—The purpose of this program is to increase the number of professional nurses trained for positions as (a) teachers in schools of nursing (basic and advanced professional schools and practical nurse schools); (b) supervisors of nursing services in hospitals, nursing homes, public health agencies and industries; (c) administrators of nursing education programs; and of nursing services in hospitals, public health agencies, nursing homes, and industries.

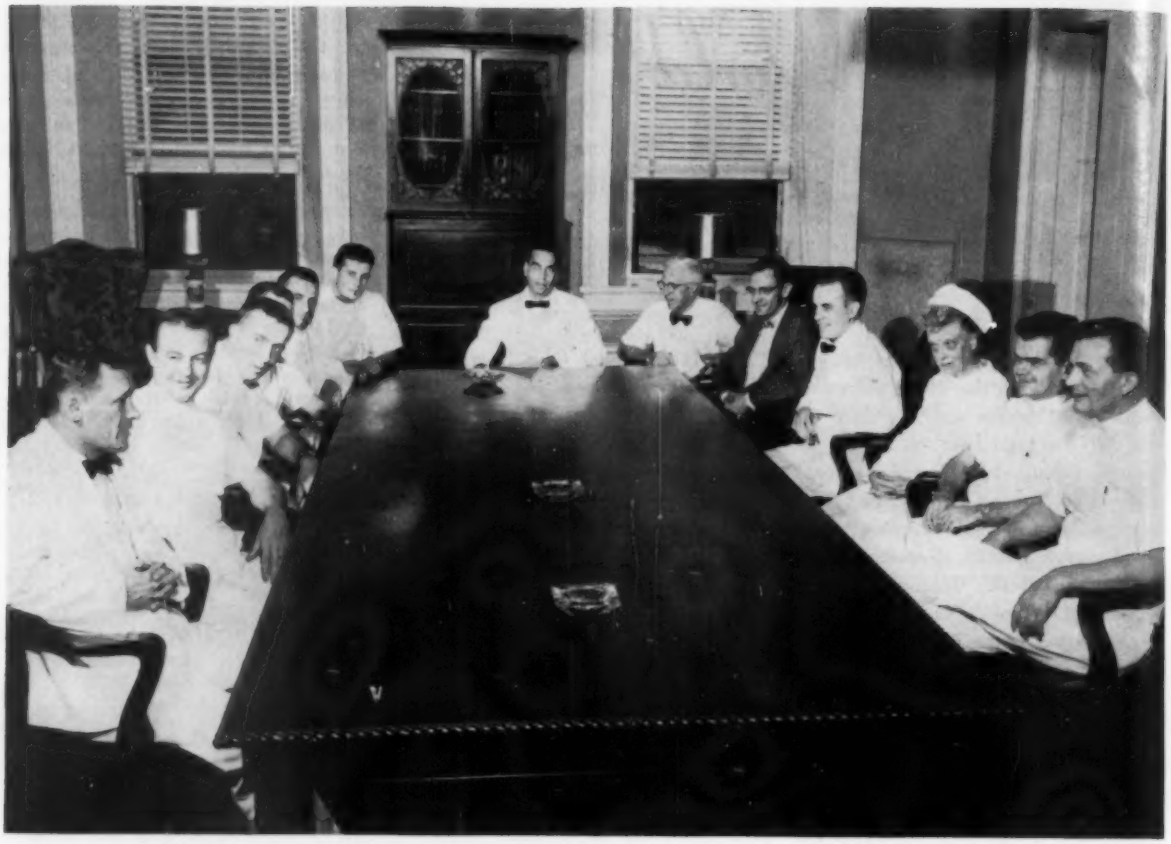
Who—Graduates of State approved schools of nursing are eligible. Candidates must be citizens of the United States or have filed a Declaration of Intent.

Where—Application should be made directly to the training institution, *not* to the Public Health Service. The training institution will follow established admission policies in selecting candidates for these traineeships.

When—Traineeships may be used for students entering their specified programs in the fall term or any succeeding term. They may enter programs of study at the beginning, or at any stage which they previously have achieved. A traineeship may be used for attendance at a summer session if it will enable a student to complete a program or is part of a continuous program. Conversion of part-time to full-time student by the use of traineeships should have priority. A student may receive a traineeship for more than one year, but it is indicated that preference should be given to students who can complete a program in one year.

What—Traineeships include tutition and required fees, a stipend for living expenses, and some travel allowance. Specifically, cost of travel of the trainee from his present location to the training institution will be allowed at six cents a mile as computed by standard mileage charts. Allowance also covers travel to and from centers of field practice if the center where such practice is given is outside the city in which the training institution is located. The annual (12 month's) amounts for traineeship stipends (to be prorated and paid on the basis of one-twelfth for each month of training) are as follows: Pre-bachelor's—$2,400; Post-bachelor's—$3,000; Post-master's—$3,600. Cost of books and supplies is not included. An allowance

(Continued on page 25)



A classroom discussion of communications skills for nurses is headed by Anthony J. Mannino, R.N., author of this article.

To promote successful relationships with others, nursing schools emphasize the development of

Communication Skills for Student Nurses

by Anthony J. Mannino, R.N.
Associate Director of the Pennsylvania Hospital School of Nursing for Men. Philadelphia, Penna.

AS THE CONSTANT search for ways to improve the quality of nursing care progresses, increasing attention is being directed to the study of interpersonal relations. Considerable literature has appeared on this subject. Most of it emphasizes the importance to the nurse of developing skills that will promote successful relationships with others. These skills are viewed as a means of enriching the nursing care given to all patients and as an aid in promoting the effectiveness of the nurse in many other situations.

There is increasing awareness of the role of communications in developing successful relations with others. It now appears to be generally accepted that communications underlie and influence all interpersonal relations. Despite this, little study has been devoted to how this aspect of communications can be further developed and refined. Dr. Brian Bird draws attention to this neglect in the following statement, "It also means that great skill is required to talk successfully with others. This skill apparently comes easily to some people, whereas to others it is a difficult or perhaps impossible skill to acquire. It is remarkable and regrettable to what extent this aspect of medical skill is taken for granted. In medical school a student spends hours learning to dissect, percuss, etc.—all essential things—but he is presumed to know how to talk. This is not necessarily so."[1] The parallel between the medical student and the student nurse is readily apparent.

It is evident then that more instruction must be devoted to the development of this specialized skill in the nursing

[1] Bird, Brian. *Talking with Patients.* J. B. Lippincott Co., Philadelphia, 1955, p. 9.

school curriculum. It is not within the scope of this paper to discuss in detail how this instruction is to be developed. Only a general orientation can be given here of the method used in our school.

The main features of this approach are (1) to incorporate at appropriate points in many of the courses now taught in the school the important concepts and principles relating to this skill, and (2) to provide for all students opportunities for supervised practice in talking with others.

The objective for this phase of instruction is to assist the student to further develop and refine the ability to communicate effectively with others when in face to face relation with them. This objective is broad in scope and includes the ability to communicate effectively not only with the patient but also with the many other persons with whom the nurse must be able to relate successfully. (Although emphasis in the classes is on talking with the patients, the techniques and principles are the same whether it is in talking with patients, physicians, co-workers or others. The transfer of these techniques is not difficult if the student is aware of this.)

Integration of Concepts and Principles in Other Courses

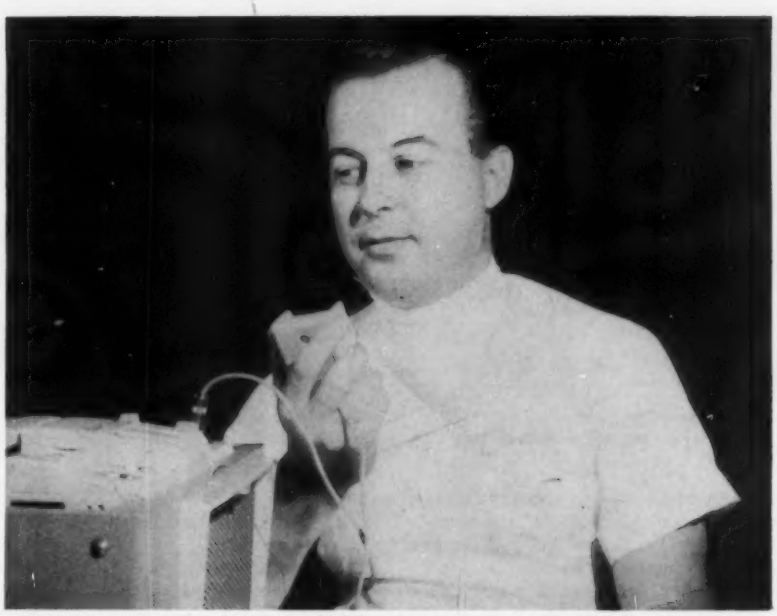
I. *Nursing Arts*

In the course in Nursing Arts, several classes are devoted to the communications that are important in nursing. This sub-unit, titled "Communications Skills in Nursing," includes an introductory class and several classes in basic principles and concepts of communications.

The introductory class is designed to develop an understanding of the importance and general nature of communications. The following is a brief outline of what is presented:

1. Definition of Communication.
2. Importance of Communication.
   a. Perpetuation of knowledge.
   b. Growth of society.
   c. Development of personality.
3. Classification of Communication.
   a. Nature—verbal and non-verbal.
   b. Medium used—conversations, radio, posters, etc.
   c. Techniques—direct, indirect, non-directive.
   d. Levels—general and specialized.
   e. Purpose—to inform, to motivate, to convince, to modify behavior, etc.
   f. Specific skills utilized by the nurse:
      Reading, writing, speaking and listening (specify).

The remaining classes in this unit are devoted to the writing, talking and listening skills. The classes in Note Writing, which are an integral part of this course, are taught at this time. Additional classes are included in the principles and techniques of talking with others. These latter classes are designed to: (1) develop an understanding of basic factors which underlie talking and listening skills, (2) assist the student in evaluating speaking skills, and (3) assist him in overcoming hindrances to effective speaking.



Using tape recorder, Byrd Reed, R.N., demonstrates self-evaluation technique.

Discussion is devoted to an analysis of interrelated factors which underlie this skill in both participants. The following is a brief outline of what is presented:

1. Attitude—alert, interested, natural, genuine.
2. Voice—lively, pleasant, natural.
3. Diction—enunciation and pronunciation.
4. Physical factors—physical actions, mannerisms, traits.
5. Clarity of communication—appropriate level, unity, clear purpose.
6. Emotional factors—appropriate and inappropriate responses, emotional hindrances.
7. Verbal factors — vocabulary — technical and general, semantics.

II. *Psychology and Sociology*

The main reason why the Social Sciences are included in the curriculum is to develop a better understanding of human interrelationships. This is achieved by securing a better understanding of our own behavior, the behavior of others, and the setting in which human interactions take place. Since communications play an important role in all human relations, it is evident that a knowledge of the psychological and sociological concepts of behavior will lead to improved communications.

Numerous opportunities are present in both the Psychology and Sociology courses to show relationship between concepts in these disciplines and communication skills.

One illustration of this may be taken from the course in Psychology. When the emotions are studied, discussion is also directed to the relationship between emotions and communication. For example, the class devoted to the study of anxiety also includes:

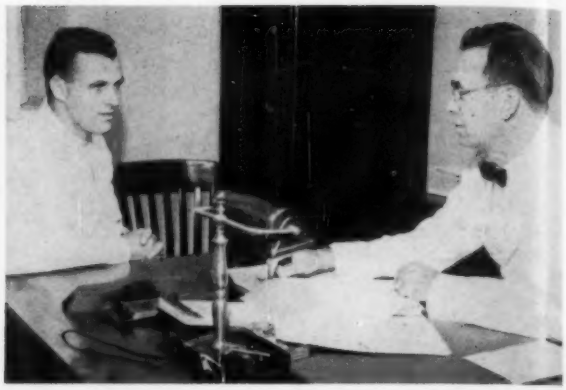
   a. The role of anxiety as a deterrent to effective communication.
   b. The importance of recognizing symptoms of anxiety as a nonverbal means of communication. (Examples are given of unverbalized anxiety that may be encountered in the physically ill, the preoperative patient, the psychiatric patient, and in the student.)
   c. Methods of communication that may be used by the nurse to allay this anxiety.

Another illustration may be taken from the course in Sociology. When studying Social Controls, discussion is also included on the specific techniques of communications that are used to maintain conformance to group standards. Ridicule, gossip and propaganda techniques are discussed so that the student will understand that they are techniques of communications designed to control or modify the behavior of others. Further discussion is devoted to ways in which these communications influence human relations.

III. *Psychiatry and Psychiatric Nursing*

These courses are also utilized to de-

In nurse-patient communication, Ted Chmielewski, R.N., demonstrates that receptive *listening* can be effective.



Student counseling, too, requires skill in communication, as shown by Anthony J. Mannino, R.N., and Robert De Brent.

velop an understanding and appreciation of the specialized nature of communications in psychiatric nursing and the role of these communications in developing effective relationships with the patients.

The course in Psychiatry helps the student develop a better understanding of the behavior of the mentally ill patient. These classes are supplemented with discussion classes which center around the dynamic interpretation of the behavior of the individual patient. This enables the student to comprehend what the patient is trying to convey through his specific symptoms when he cannot verbalize his feelings or thoughts. Through better comprehension of these symptoms the student is able to know how to respond to the patient.

In the course in Psychiatric Nursing the general principles of talking with the patient are presented. Time is also devoted to the specific techniques in communicating with the patient. Special consideration is given to the use and misuse of direct, indirect and non-directive techniques of communication. A brief consideration of non-directive counseling is included so that a better understanding of the non-directive techniques of communication will be achieved.

Supervised Practice and Experience

Obviously no amount of classroom instruction will aid the student to develop these skills. The classroom instruction develops the background of knowledge essential for the achievement of these skills. Actual proficiency, however, can be achieved only through practice and successful experiences in talking with others.

The most important experience for developing these skills is secured on the clinical services when the student is in actual contact with the patient. This is a real-life situation. The communications between the patient and student are of great importance to both of them. Ineffective communications may have serious effects. Provisions should be made so that the student will receive some degree of instruction, supervision and guidance to aid his satisfactory progress in this area.

This is one of the most neglected areas of instruction, and one of the most difficult to develop. The responsibility for this phase of instruction is vested in the head nurses, supervisors, and clinical instructors. We utilize faculty conferences to maintain a continuing orientation and interest in this area. Discussions are held on newer concepts and techniques of communications. Problems that arise on the clinical services relating to communications on the interpersonal level are presented and discussed.

Provisions are also made for the evaluation of the student in these skills. This is achieved by including two items on the Progress Reports, one relating to higher level skills in oral communications and the other to conversational skills.

Students who receive low ratings in this area are referred to a member of the faculty for guidance or counseling. In these interviews, many factors are often found to account for this low rating. In one student it is a poor vocabulary; in another, it is the fact that he considers the physical aspects of the work more important, and so on. However, one of the most common hindrances to effective communication, both with the physically ill and the mentally ill patient, stems from emotional factors within the individual. Feelings of inadequacy, fears of saying the wrong thing, fear of the patient, often are present. Through counseling the student is given an opportunity to explore his own feelings and to recognize that these feelings are commonly found in others. Many students are able to recognize and accept these feelings. We believe that because of this the student feels more comfortable when in the clinical area and is able to participate more effectively in communications.

Other opportunities are also utilized to secure practice. At the time the introductory classes on communications are given in Nursing Arts, provisions are made for each student to conduct an interview which is tape-recorded and played back to the student. This is a helpful self-evaluation technique.

When the students are demonstrating and practicing procedures in the classroom they are asked to converse as though they were in the actual situation. This is similiar to role playing which is recommended by some authorities to help develop proficiency in this ability.

It is also pointed out to the students that ordinary conversations with their friends, classmates and others can be used to further develop or refine these skills.

Careful consideration should be given to the need for including instruction in this phase of communications in all nursing school curricula. More study is needed on what instruction must be included and which are the most effective methods for assisting the student to further develop and refine these skills. The development of this proficiency will bring us closer to the objective of better nursing care for all patients.

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Denmark: In rehabilitative polio victims individual care by the nurse is all important. A story lulls this child to sleep.

An official of the World Health Organization looks back over a decade of constructive work to sum up

THE NURSES' CONTRIBUTION TO WORLD HEALTH

by Ione L. Ripley, R.N.
Adviser in Public Health Nursing, Pan American Sanitary Bureau, Regional Office of the World Health Organization, Washington, D. C.

ON OCTOBER 24th the United Nations celebrates its eleventh birthday. At the same time, the World Health Organization, one of the United Nations' specialized agencies, will be looking back over its achievements of the last decade.

Nurses, in particular, have good reason to be proud of their contribution to international public health work. This year, some 160 WHO nurse advisers, recruited from 22 countries, were working with 34 different national health services on every continent to help achieve the WHO objective of "the attainment by all peoples of the highest possible level of health."

Attention was focused on nurses recently when, at the Technical Discussions held concurrently with the IX World Health Assembly, the topic "Nurses: Their Education and Their Role in Health Programs" was discussed by representatives from 55 countries. At this meeting it was agreed that the five essential functions of the professional nurse included skilled nursing care of the sick, health counselling, observation and reporting of physical and emotional situations, training and supervision of auxiliary personnel, and participation as a member of the team in health planning. In economically favored countries, the status and role of the professional nurse is in general well established. In others, nursing has yet to become a recognized profession. Under these circumstances, WHO nurses are working with governments to im-

San Jose, Costa Rica: Public Health Nursing students make regular check-ups of children registered at the Health Center. The international adviser goes along with her.

Brunei: The WHO nursing education project arouses keen interest as a community enterprise. Here a midwife explains baby care to a Malay woman. Sarong used as cradle.

Luriama, Peru: In a primitive bedroom where a hammock serves as a crib, the Public Health Nurse explains the importance of daily hygiene in caring for a one-year-old.

Bangkok, Siam: Young Thai mothers sit on temple steps to listen to a lecture on child care by the WHO nurse. Photos by Pan American Sanitary Bureau, regional WHO office.

India: In all of India there are only 5,000 trained midwives. Almost all village births are attended by the hereditary "dais," who is completely untrained. Now the Indian Health Services, with help from WHO and the UN Children's Fund, are giving to nurses, midwives and health visitors basic training for the task of looking after India's mothers and children.

prove nursing services and the education of nursing personnel in the various countries in order that they may contribute more fully in assisting national populations to realize a level of health which, in the words of the WHO Constitution, is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity."

The World Health Organization, the largest international employer of nurses, was conceived following a proposal for the establishment of an international health organization made jointly by China and Brazil at the UN Conference on International Organization in San Francisco in 1945. Subsequently, an Interim Commission was set up when representatives of 61 nations signed the recommended Constitution of the WHO in July, 1946. By April 7, 1948, 26 governments had approved this Constitution and WHO was formally established as a permanent organization.

The directing body of the WHO, called the Assembly, held its first meeting in June, 1948, with representatives present from 56 member governments. Since then membership has grown to include 88 countries. The Palais des Nations in Geneva was chosen as headquarters of the Secretariat, and Regional Offices were set up in Brazzaville, French Equatorial Africa, for Africa; in Alexandria, Egypt, for the Eastern Mediterranean; in Geneva, for Europe (this European Office will soon be transferred to Copenhagen); in New Delhi, India, for Southeast Asia; and in Manila, Philippine Islands, for the Western Pacific. The Pan American Sanitary Bureau, which had been operating in the field of international health in the Americas since 1902, agreed to serve as Regional Office for the Americas. Dr. M. G. Candau of Brazil is the present Director-General in Geneva, and Dr. Fred L. Soper, Director of the Pan American Sanitary Bureau, is also WHO Regional Director for the Americas, with headquarters in Washington, D. C. Nurses work at all administrative levels of the Organization and make up 24 per cent of the total professional staff. The proportion of nurses among staff members assigned to field projects in the various Regions ranges from 18 per cent to 48 per cent.

The most important task of the Organization is the strengthening of national health services, and it is in this connection that nursing plays an important part. National health authorities are assisted in the identification of major health problems, and, upon their request, projects are set up to provide, primarily, technical advisory services and fellowships from the Organization and, frequently, supplies and equipment from the United Nations Children's Fund (UNICEF).

Let us cite several examples of how these projects develop. In 1953, the Government of the Dominican Republic requested assistance from the Organization in the reorganization of health services throughout that country. A medical officer from the Washington office went to Ciudad Trujillo and spent a month in the country studying health needs and resources and developing a plan of action with national health authorities. This led to the development of a project agreement for mutual cooperation in the reorganization of the public health structure at the central level and the gradual establishment of local services throughout the country.

A medical adviser was employed early in 1954 and went to the Dominican Republic to initiate activities. Reorganization of central services was started and a site in a town near the capital was selected as a demonstration center for rural health services and for the training of personnel in the fields of nursing and sanitation. Since no preventive health services had existed before the project was developed, no national public health nurses were available. However, three nurses who had completed fellowship study in the USA in related special-

ties were employed and given help in the initial steps. These steps consisted essentially of a detailed survey of conditions and resources, determination of needs, and development of a plan and program.

The training of personnel and the organization of services form an integral part of activities, and, in the Dominican Republic, six public health nurses are now working in a newly operating health center, and sixteen auxiliaries have completed a six-months' training course and are employed in health activities. The international nurse adviser has formulated a plan for the development of a nursing section in the national health services and has been working with the legal authority of the health department regarding necessary additions and modifications in a proposed Sanitary Code. She has also prepared a proposal for a university-sponsored course in public health nursing for local staffs. Her day-to-day activities involve frequent consultation with medical personnel regarding procedures and activities related to newly established services in the health center and the setting up of referral systems with the local hospitals and social services. At the health center she assists the supervising nurse in her administration of nursing and auxiliary activities and in her first attempts at staff development. A new health center in the capital is to be organized later this year, and the adviser will help appropriate authorities in the selection and adaptation of a building for this purpose, and after that in all the organizational procedures involved in the setting up of a new service. Since the Dominican Republic does not have a school of nursing at the present time, the nurse adviser has been asked to make recommendations on the basic requirements and procedures for the establishment of such a school.

All programs do not follow so orthodox a course. In 1951, Colombian authorities requested assistance in the strengthening of maternal and child health services. A special consultant who surveyed the situation considered that the greatest need was for assistance in the field of midwifery. An international nurse-midwife was subsequently employed and set up a nurse-midwifery course in the School of Public Health in Bogotá. It soon became evident that nurses to study midwifery were not to be found and that, furthermore, a background in public health was needed in addition to specialized training in midwifery. The course was thereupon modified to prepare public health nurse-midwives, who are now employed in health centers in Bogotá City Health Department and recently in state-level health services. The national health authorities have, in the meantime, requested redefinition of the project involving international technical assistance in the reorganization of health services in five departments and the provision of supplies and equipment from UNICEF. A second international nurse and a medical officer have been employed for the expanded program, and a third nurse is being recruited.

A word might be said about the consultation process in international health work. The international nurse adviser in general works through so-called national counterparts. However, there may be an evolutionary period during which she assumes administrative or supervisory responsibilities because there is no qualified national nurse. During this time, a national nurse is given the necessary preparation either through fellowship study or by direct tutorship, and as quickly as possible the international nurse moves into a consultant role. This means a day-by-day advisory relationship with one or more nurses, depending upon the situation. The relationship in the beginning may be such that during the first months the adviser learns a great deal more than she is able to teach, since she is going through a period of adjustment to her job and to the foreign

Denmark: In the fight against polio, a good therapist makes a game of exercises for strengthening the muscles.

Iraq: First maternal and child health center in Iraq is at Daura. Iraq needs 25 urban and 250 rural centers.

Central America: A WHO international nurse adviser (right) supervises a home visit in a rural area by one of her students.

The nurses whom international nurse advisers help to train cover rugged terrain by any available means of travel.

Wherever she works, the international nurse adviser finds many citizens who are eager to be trained in nursing.

situation in which she finds herself. If she is not fluent in the language of the country, she must devote a great deal of her time and energy to learning it. In addition, she needs to become acquainted as quickly as possible with the local people and culture.

International advisers in public health nursing usually work in teams composed of a medical officer, nurse, engineer, and other specialized personnel. These team members come from different countries, sometimes with different language backgrounds and frequently with different cultural standards and work experiences which they bring to share with workers in the host country. Project advisers are assisted by other staff members of the Organization, and the host country thereby draws upon a very extensive pool of international experience.

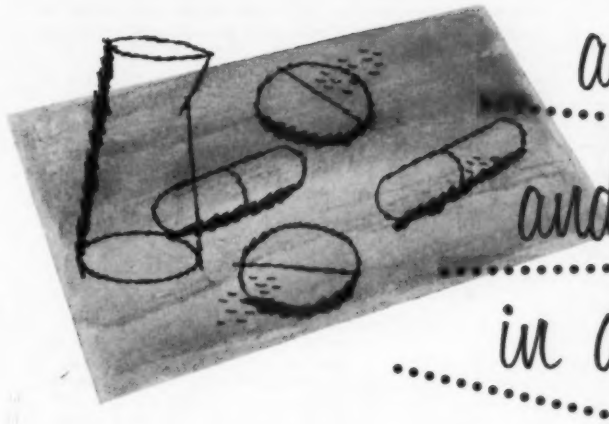
WHO further assists in the sharing of professional experience through the organization of Expert Committees, regional congresses, seminars and workshops, several of which have dealt with nursing, generally and in specialized aspects. In 1955 the Expert Committee on Psychiatric Nursing discussed problems related to the nursing care of mental patients. In September the Fourth Regional Congress on Nursing met in Mexico City to discuss "Principles of Administration in Nursing," the topic chosen by nurse participants at the Third Regional Congress on Nursing held in Rio de Janeiro in 1953. In addition to the delegates of the national health authorities and national nurses' associations of the various countries, there were represented in Mexico City the International Council of Nurses, the International Committee of Catholic Nurses and Medical Social Workers, the League of Red Cross Societies, the Institute of Inter-American Affairs, The Rockefeller Foundation, and The Kellogg Foundation. The Pan American Sanitary Bureau, WHO Regional Office for the Americas, delegated ten of its nursing advisers to attend the Congress.

As part of the Organization's professional education and training program, sixty-nine WHO teachers and advisers were appointed to twenty-five schools of nursing in 1955 to help with training of various kinds. In addition, in 1955 approximately 120 fellowships were awarded for advanced studies in nursing. Each nurse-fellow will return to her home country to assume a leadership role in her specialty and help in the further training of other nurses. Even in the U. S. we hear continuously of the shortage of nurses, yet at a recent meeting of the District of Columbia Nurses Association it was stated that over 4,000 nurses were practicing in Washington, D. C., alone. If this is compared with the current total of some 3,000 nurses practicing in Brazil—with its population of over 55 million—we can appreciate the gravity of the problem and what still remains to be done in other countries.

It is a long way yet to satisfactory recognition by many countries of the importance of nursing in the development of health and medical care services, to the filling of the nursing needs which in many countries are so out of proportion with those of other professionals, and to satisfactory development of realistic nursing training in order to fill these gaps by stages.

Yet the full recognition by WHO of the important role of the nurse in the implementation of health and medical care programs has placed the nurse in this Organization on an administrative level with other specialized professionals and this is leading to a dynamic program to overcome the difficulties and to fill the gaps. Eventually this will contribute to the building of a better future for the peoples of the world, a future in which WHO, as a member of the United Nations family, is proud to participate to the fullest.

El Salvador: The coffee break helps to broaden the mutual understanding of people from different countries, since it permits the international nurse adviser to become acquainted with her students in this country to which she is a newcomer.



advances and trends in drug therapy

by Joan Sarvajic, R.N.
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Hormones of the Adrenal Glands

This is the second in a series of three articles concerned with the recent dramatic use of hormones of the adrenal gland. Epinephrine and norepinephrine were considered from the standpoint of their clinical use in Part I of this series, "Hormones of the Adrenal Medulla," published in the September issue of *Nursing World* magazine.

Part II: Hormones of the Adrenal Cortex

It will be recalled that at first it was believed that all functions of the adrenal glands were the result of the secretion of epinephrine by the adrenal medulla, but by 1921 definite proof had been obtained that the cortex and not the medulla is essential for life.

The cortex completely surrounds the medulla in mammals. It has its origin in the mesoderm and grows relatively faster than the medulla. Three layers can be distinguished in the adrenal cortex; from without inward, these are the glomerulosa, fasciculata, and reticularis. When there is hypertrophy or atrophy of the adrenals, changes are more marked in the inner layers than in the outer layers. The zona fasciculata is the widest of the three. It has polyhedral cells with many vacuoles filled with fat droplets, neutral fats, cholesterol esters, phospholipids, and specific sterols which are the active principles of the adrenal cortex. It is not known whether the variegated functions of the adrenal cortex are mediated equally by all parts of the cortex or whether different layers have separate functions. Evidence has been presented which indicates that the zona glomerulosa is more involved in the secretion of a desoxycorticosterone-like compound than other zones, and that the zona fasciculata participates in the secretion of corticosterone more than other zones. All cortical cells have a high ascorbic acid content.

ACTH and the Adrenal Cortex

There is an important functional reciprocal relation between the hypophysis cerebri (pituitary) and the adrenals. The pars distalis of the hypophysis secretes adrenocorticotrophin, which is one of the main factors in the development and maintenance of corticoadrenal structure and function. Adrenocorticotrophin exerts its effect continuously. Hypophysectomy is rapidly followed by marked atrophy of the adrenal cortex.

Corticoadrenal hormones regulate the secretion of hypophyseal adrenocorticotrophin. In the normal mammal, corticoadrenal hormones inhibit adrenocorticotrophin secretion. Total adrenalectomy is followed by an increase in adrenocorticotrophin secretion.

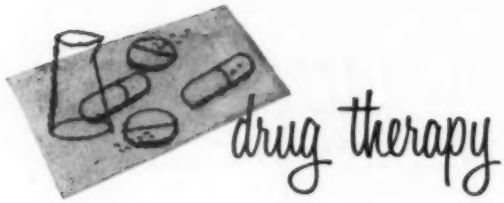
Injection of adrenocorticotrophin provokes the following effects: (a) increase in weight in the infantile or adult adrenal; (b) prevention of corticoadrenal atrophy or recovery of the adrenal size after phyophysectomy: (c) early reappearance of substances staining with sudan in the adrenal cortex of hypophysectomized rats; (b) rapid decrease of cholesterol and ascorbic acid in the adrenals. These effects have been used to assay the potency of adrenocorticotrophin preparations.

The effects of adrenocorticotrophin in man are estimated indirectly by the effects produced by the excess of corticoadrenal hormones secreted, such as (a) rapid decrease of eosinophil cells in the blood stream and increase in uric acid excretion; (b) decrease in the lymphocyte count in the blood; (c) increased excretion in the urine of substances which have corticoadrenal activity, such as protective effect against the lethal action of cold on adrenalectomized animals or the storage of glycogen in the liver of adrenalectomized mice; (d) estimation of the urinary elimination of steroids (17-ketosteroids, or axycorticoids) which can be derived from corticoadrenal hormones.

Functions of Adrenal Cortical Hormones

Hormones secreted by the adrenal cortex regulate many important functions, among which the following are best known:

1. *Salt and water metabolism.*
   a. Regulation of distribution of water, sodium, potassium and chloride in the body. This is of vital importance to the organism.
   b. Regulation of renal excretion of water, sodium, potassium and chloride.
   c. Regulation of blood volume and maintenance of arterial blood pressure.
2. *Carbohydrate, fat, and protein metabolism.*
   a. Regulation of the blood-sugar level, of glycogen concentration in the tissues, and of production and consumption of glucose.
   b. Increase in protein catabolism and in glyconeogenesis from protein.
   c. Action on fat metabolism.
3. *Neuromuscular function.*
4. *Action on sexual functions,* the development of secondary sexual characteristics, hair growth, and skin.
5. *Resistance to many physical and chemical agents and to infections.*
6. *Interrelation with other endocrine glands and tissues (thymus, lymphoid tissue, etc.)*

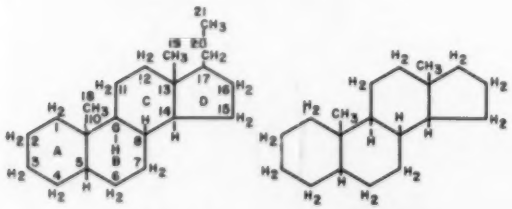


Isolation of Cortical Extracts

When it was found that death following adrenalectomy was due to cortical insufficiency, extracts which could maintain life in adrenalectomized animals were discovered. Thomas Addison in 1855 had described the clinical results of adrenal cortex insufficiency. It was not until 1930 that potent extracts of the cortex were prepared by Hartman and Brownell and Swingle and Pfiffner. Active extracts of the gland were named "cortin." Today this term usually refers either to the unfractionated extracts of the cortex, the semi-purified, or the unidentified fractions of the gland.

After the demonstration of physiological activity of adrenal cortical extracts, it became evident that the activity was not due to a single hormonal substance. Pfiffner, Wintersteiner, and Kendall in the U. S. and Reichstein in Switzerland reported the isolation of crystalline compounds. Each group named these compounds with some letter of the alphabet. It was not until the chemical identities of the various materials were established that correlation of the results from the several laboratories was possible.

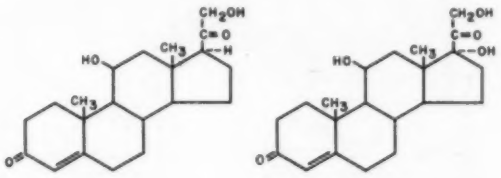
Typical of the isolation procedure is that of Kuizenga. Starting with one thousand pounds of beef adrenals, he isolated nine grams of a final product which had a biological potency equivalent to 2.5 grams of Kendall's compound E (17-hydroxy-11 dehydroxycorticosterone) or 75,000 rat units. The attempt to isolate and characterize all the fractions of the gland is a great task. After all crystallizable material has been removed from cortical extracts, there remains an "amorphous fraction" which has 14 to 30 per cent of the activity (based on life maintenance) of the original whole extract. Only 10 per cent of the active substance has been obtained in pure crystalline form and identified chemically. The remaining 90 per cent is the more active part, but its chemical structure has not yet been established. To date approximately 30 steroids have been separated from these extracts. It is not known whether all of them are produced by the adrenal gland or whether some arise in the process of extraction. All the compounds isolated to date are steroids and are related to the parent substances allopregnane and androstane, the formulae of which are given below:



ALLOPREGNANE ANDROSTANE

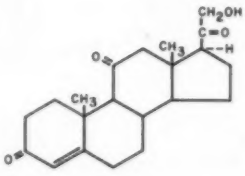
Six of the thirty corticosteroids have physiological activity, but it is not known which of these constitutes the primary secretory product of the gland. This problem is being studied with isotopically labeled steroids. Cholesterol may be the parent substance from which the many adrenal steroids are formed, since it too has the perhydrocyclopentenephenanthrene nucleus.

The chemical structures of the six adrenocortical steroids which possess to a significant degree the ability to maintain life in adrenalectomized animals are presented below:

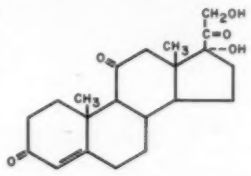


CORTICOSTERONE

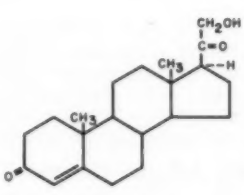
17-HYDROXYCORTICOSTERONE (HYDROCORTISONE)



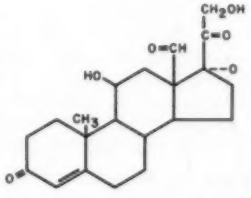
11-DEHYDROCORTICOSTERONE



17-HYDROXY-11-DEHYDRO-CORTICOSTERONE (CORTISONE)



11-DEOXYCORTICOSTERONE (DOCA)



ALDOSTERONE (ELECTROCORTIN)

The steroids with oxygen atoms at C 11 and C 17, particularly cortisone and hydrocortisone, exert more ubiquitous actions, especially on intermediary metabolism, than do the 11-deoxy compounds. The actions of the latter are largely confined to electrolyte metabolism. According to their therapeutic effect, corticoadrenal hormones have been classified in three groups:

I. Corticoids with activity in mineral metabolism. These provoke retention of sodium, chloride, and water and an increase in the excretion of potassium and nitrogen. Chemically, it will be noted, these are compounds, such as aldosterone and deoxycorticosterone, in which the oxygen is lacking at C 11.

II. Glycocorticoids which increase the fasting blood-sugar and liver-glycogen concentration, increase diabetic hyperglycemia and glycosuria, stimulate glyconeogenesis from protein, increase protein catabolism, and decrease glucose consumption. Chemically, it will be noted, these are compounds, such as cortisone and dehydrocorticosterone, which have oxygen on C 11 and an OH on C 17.

III. Androgenic corticoids, which increase muscular development and hair growth, provoke virilization in women (hypertrophy of the clitoris, hirsutism, etc.) and increase urinary excretion of 17-ketosteroids. Examples are: adrenosterone, androstenedione, 11-hydroxyisoandrosterone, and 17-hydroxyprogesterone.

The difference between corticoids active on mineral metabolis and glycocorticoids is only relative. This is illustrated strikingly in the table on next page.

Perhaps the most important of the corticosteroids is 17-hydroxycorticosterone (Hydrocortisone), because it is the predominant one found in adrenal blood and it has the greater number of physiologic activities. Deoxycorticosterone (DOCA) has been found only in a few cases in adrenal extracts, although it appears in the blood per

Approximate Quantitative Effects of Known Active Principles of the Adrenals*

ACTIVE PRINCIPLE	Maintenance of life (rat)	Renal function (dog)	Electrolyte metabolism (dog)	Muscular contraction (rat)	Hepatic Glycogen (rat)	Diabetogenic effect (rat)
Corticosterone	1-2	2	1-2	3	3	3-4
11-Dehydrocorticosterone	1-2	2	1-2	2	2	3-4
17-Hydroxy-11 dehydrocorticosterone (Cortisone)	2	1	?	4	4	5
17-Hydroxycorticosterone ((Hydrocortisone)	2	1	?	5	5	5
11-Deoxycorticosterone (DOCA)	4	4	5	1	1	1
Amorphous fraction containing Aldosterone	5+	5	?	1-2	1	?

fused through an isolated adrenal. There is therefore some doubt that it is a hormone produced by the normal gland. It is widely used because it maintains adrenalectomized animals and is efficacious in Addison's disease (chronic adrenal insufficiency). Aldosterone, at first called electrocortin, has been isolated recently; it has a potent effect on sodium retention, between 25 and 50 times that of deoxycorticosterone. Cortisone is frequently used in therapeutics, since Hench and his associates observed that it produced spectacular improvement in rheumatoid arthritis.

Throughout the 1940's, interest in the physiological roles of ACTH and adrenocortical steroids was great. This interest was particularly stimulated by the appreciation that many physiological and biochemical responses to stress are dependent upon the integrity of the adenohypophyseal-adrenocortical system. One of the most ardent exponents of the relationship between the adrenal cortex and stress was Seleye (1946). Seleye developed an elaborate theory that certain "diseases of adaptation" resulted from the complex responses of susceptible tissues to the adrenocortical hormones.

It was upon such a background that Hench and his coworkers in 1949 announced the dramatic effects of cortisone and ACTH in diseases other than adrenocortical insufficiency. As early as 1929, Hench was impressed by the fact that arthritic patients, when pregnant or jaundiced, experienced a temporary remission. He was thereby convinced that rheumatoid arthritis could be profoundly influenced by phenomena which were primarily biochemical. He also believed that a metabolite was responsible for the remission during hepatic insufficiency or pregnancy. Various substances, including steroids, were given therapeutic trial without success. The possibility that the antirheumatic substance might be an adrenocortical hormone was actively entertained, and as soon as cortisone was available in sufficient quantity it was tested in a case of acute rheumatic arthritis. Fortunately, an adequate dose was employed and the response was dramatic.

Synthesis of Adrenocortical Steroids

The small yield of steroids from cortical tissue and the high cost of adrenocortical extracts have stimulated efforts to synthesize active steroids. A partial synthesis of important members of this group has been achieved. Certain naturally occurring phenanthrene derivatives are used as starting materials. The synthesis of the 11- deoxy compounds is much less difficult than that of the oxygenated congeners. Therefore the first active adrenocorticosteroid prepared by the chemist was DOCA or 11-deoxycorticosterone. This was accomplished in 1937 before the compound was isolated from the gland in 1938. The availability of deoxycorticosterone provided a major advance in the treatment of adrenocortical insufficiency. However, it was soon apparent that the 11-deoxy compound lacked many of the important properties of C 11 oxygenated steroids. In 1943 Lardon and Reichstein converted deoxycholic acid to 11-dehydrocorticosterone. Clinical investigators concluded that this compound had little or no therapeutic action. The chemists continued their efforts and synthesized 17-hydroxy-11 dehydrocorticosterone. This compound, now known as cortisone, proved to be very active biologically.

The interests of chemists now turned to hydrocortisone, a compound more active than cortisone with respect to important actions on intermediary metabolism. The partial chemical synthesis of hydrocortisone was achieved in 1950. Today this compound has many important therapeutic uses.

The chemists, however, were still faced with an enigma. The amorphous fraction was more active than any known steroid in maintaining the life of adrenalectomized animals. Furthermore, modern chromatographic technics indicated that a steroid was present in the adrenal venous blood of mammals which was many times more potent than desoxycorticosterone in promoting the renal control of electrolyte excretion. In 1954 in a series of brilliant experiments this compound was isolated and identified. It was originally called electrocortin but is now known as aldosterone.

The structure of naturally occurring adrenocortical steroids can be altered by introducing substituents into the molecule. The 9-alpha halo derivatives of cortisone and hydrocortisone are such a series. The iodo and bromo derivatives are less active than the parent compounds in most respects. However, 9 alpha-chlorocongeners are as much as five times more active than the unsubstituted steroids in many important metabolic actions. These compounds may prove to be of importance in therapy.

As technics improve for the identification of adrenocortical steroids in adrenal venous blood, it becomes increasingly apparent that more than one steroid is secreted. In man it seems fairly certain that corticosterone, hydrocortisone, and aldosterone are elaborated by the gland. All the known metabolic functions of the adrenal cortex could be accounted for by the activities of these steroids.

The story of the adrenal steroids is still unfolding, and many years will be required to assess the contributions of these hormones to medicine. However, some concept of their impact upon the medical world can be gained from the fact that, in the year following the first published report of the efficacy of cortisone in the treatment of rheumatoid arthritis, the Nobel Prize in Medicine was awarded to Kendall, Reichstein, and Hench. These men were responsible for much of the basic chemical research which led not only to the synthesis of the steroids but to their ultimate use in medicine.

Source: Ingle, D. J., "A Symposium on Steroid Hormones," University of Wisconsin Press, Madison, 1950.

*Activity is graduated from 1 (slight) to 5 (marked).

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FLORINEF — SYNTHETIC CORTICOSTEROID

DESCRIPTION: Florinef is chemically fluorohydrocortisone acetate. This synthetic is the 9 alpha-fluoro derivative of hydrocortisone or Kendall's Compound F.

ACTION AND EFFECTS: Like other corticosteroids and their derivatives, fluorohydrocortisone inhibits inflammatory reactions to bacterial, allergenic and chemical agents. It also has antipruritic action.

A comparison of pharmacodynamic activities clearly demonstrates that fluorohydrocortisone is a more potent steroid than hydrocortisone. Pharmacodynamic assay includes adrenocortical inhibition, liver glycogen, thymus involution, diuresis, inflammatory response, and sodium excretion.

USES: The following conditions have responded to treatment with Florinef Ointment and Florinef Lotion: dermatitis (atopic, eczematoid, contact), neurodermatitis, lichen simplex chronicus, eczema (atopic, dyshydrotic, stasic, nummular) infantile eczema, and anogenital pruritus. Fluorohydrocortisone appears to be more effective for topical application than hydrocortisone.

PREPARATIONS: Florinef Ointment is prepared in concentrations of 0.1 and 0.2 per cent. The vehicle for the ointment is Plastibase, a non-water-absorbing ointment base containing, by weight, 95 per cent liquid petrolatum U. S. P. and 5 per cent polyethylene, an inert plastic. The use of this base insures faster, more uniform release of the active corticoid, excellent spreadibility, and consistent softness.

Florinef Lotion is 0.1 and 0.2 per cent aqueous emollient suspension of Squibb fluorohydrocortisone acetate.

DOSAGE AND ADMINISTRATION: It is recommended that Florinef be applied sparingly and spread lightly over the affected area two to four times a day. Application to large areas of the skin does not appear to predispose to percutaneous absorption.

Recent clinical studies have demonstrated that 0.1 per cent Florinef is usually as effective as 0.2 per cent Florinef. The 0.2 per cent should be reserved for resistant cases that fail to respond to the 0.1 per cent.

TOXICITY: Sodium retention with edema has been reported in rare instances. If edema occurs following application of the preparation, a lower concentration may be tried or the drug temporarily discontinued. To speed disappearance of edema, potassium chloride 3 Gm. per day and restriction of dietary sodium may be considered. The incidence of adverse local reaction is minimal.

PRECAUTIONS: As with any corticosteroid, the nurse should be aware of the possibility of sodium retention with resulting edema.

Thus, the patient should be carefully observed during his daily treatments. Daily weight check is important, with careful ascertaining that a weight gain is a true one and not one that is the result of deposition of fluids.

METICORTEN — SYNTHETIC CORTICOSTEROID

DESCRIPTION: Meticorten is chemically known as prednisone. It is one of a series of recently synthesized crystalline corticosteroids.

ACTION AND EFFECTS: Preliminary clinical studies indicate that Meticorten provides many of the advantages of corticosteroid therapy and, at the same time, avoids the major undesirable electrolyte and metabolic effects associated with therapeutic dosages of cortisone and hydrocortisone. Meticortin has anti-inflammatory and antirheumatic effects. It relieves pain and swelling, and diminishes joint stiffness. It lowers sedimentation rate in instances where cortisone or hydrocortisone have proved ineffective. Roughly speaking, it has been estimated that Meticortin is four times more potent than cortisone and one quarter as toxic. It avoids sodium and water retention, weight gain due to fluid retention and excessive potassium depletion.

USES: Meticorten is valuable in the therapy of rheumatoid arthritis, other so-called collagen diseases, and intractable asthma. Current investigations indicate that Meticorten also produces beneficial results in many other diseases responsive to corticosteroids. Preliminary studies show encouraging results in rheumatic fever, nephrosis, disseminated lupus erythematosus, periarteritis nodosa, eye disorders, dermatomyositis, acute pemphigus vulgaris, atopic eczema, and various other allergic disorders. It appears that Meticorten is more effective in the treatment of inflammatory arthritic and allied conditions than cortisone and its analogues.

PREPARATIONS: Meticorten is available in scored tablets of 5 mg. each.

DOSAGE AND ADMINISTRATION: In the treatment of rheumatoid arthritis, dosage of Meticorten begins with an average of 20 to 30 mg. a day. This is gradually reduced by 2.5 to 5 mg. until maintenance dosage of 5 to 20 mg. is reached. The total 24-hour dose should be divided into four parts and administered after meals and at bedtime. Patients may be transferred directly from hydrocortisone or cortisone to Meticorten without difficulty. Discontinuance of therapy results in a return of symptoms in a few days.

TOXICITY: Undesirable reactions do occur with Meticorten, but they are less frequent, less severe, less varied, and more transitory than with cortisone. Reactions such as mild insomnia, nervousness, and digestive disturbances tend to decrease and disappear in many cases as the drug is reduced or even when the dose is not altered. Increased appetite, insomnia, gastric disturbances, mild euphoria, facial rounding, palpitation, weakness, perspiration, hirsutism and depression have occurred in that order. Body weight tends to be steady or show a slight decrease. No impairment of water balance has been noted. Urination is increased both in frequency and in volume. Of reactions encountered, cardiac episodes appear most troublesome and take the form of heart consciousness, palpitation, breathlessness, and precordial oppression. Gastric reactions deserve attention, especially with history of unusual indigestion.

PRECAUTIONS: The use of Meticorten should not preclude: (1) the necessity for employing tried and true supportive measures such as rest, adequate diet, physical therapy, and corrective orthopedic measures when indicated; (2) the control of focal infection; (3) attention to allergic, occupational, and social environmental factors; and (4) other conditions pertaining to the general health of the patient.

COMMENTARY

by Louise Candland, R.N.

Industrial Nursing Editor

INDUSTRIAL nurses are well aware of the fact that cancer is a major health problem. They are often called upon to give comfort and counsel to men and women who suspect or have been told that they have cancer. To many of these people the word "cancer" is a sentence to pain, suffering, and a long lingering death. The victim sees his life's hopes shattered and lives in a state of apprehension with his real and imaginary fears.

Knowing that such fears are valid, the industrial nurse may let her own fears cloud her thinking and fail to give these persons adequate support. She may forget that there are ways to arrest or cure cancer. The American Cancer Society reports that last year over 75,000 people were cured. As even better and safer methods of treatment are developed, this figure will grow.

The industrial nurse's contribution to helping the cancer patient is to thoroughly understand what treatment is available, to help him see the positive value of prompt, adequate treatment, to give psychic support when he becomes discouraged, and to help him to readjust to normal life.

While the industrial nurse may not actually participate in the treatment, she can be an important factor in its success. How does she do this? First, she will understand that the patient's rehabilitation begins when the treatment is started. She will use good judgment in deciding how much she should tell the patient and his family. She will emphasize the positive aspects of treatment and be able to cite examples of successful cures. She can be of help to the hospital personnel by giving them background information on the patient's mental makeup—whether he is morbid about his condition, and whether he has good psychological reserves. Also, she should know whether his family can be depended upon to give him physical help as well as moral support.

During the course of his treatment she will keep in touch with him and show interest in his progress. An occasional visit to the hospital, arranging for blood donors where necessary, small gifts, news about the plant activities, will be helpful in maintaining his interest.

After he returns home, she can assist in providing professional help through a visiting nurse service. She can acquaint the family with the services offered by the local chapter of the Cancer Society.

Because his treatment may extend over weeks or months and because it might often be unpleasant, the industrial nurse must be prepared to answer questions or to cope with discouragement. Unfortunately, the family or the patient may find out about sub-standard clinics which claim to offer "short cuts" to complete cure. Many patients who would logically recognize such a clinic for what it is are emotionally ready to try anything on the possible chance that it might work. The nurse must be prepared to give valid reasons why a break in treatment is dangerous.

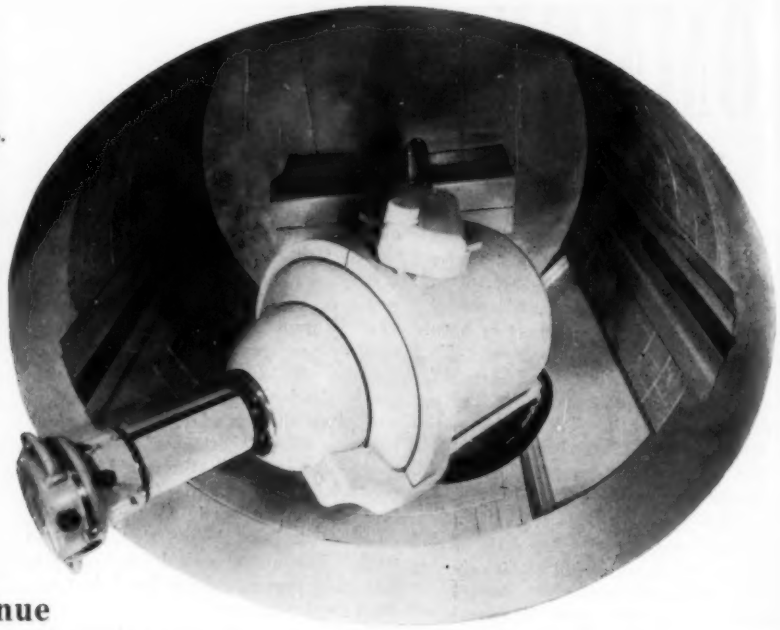
Perhaps the patient has had to undergo radical surgery in which he has lost an arm or leg or has had a deep excision of tissue. Perhaps he has had a colostomy. Any of these conditions may provide good reasons why he does not wish to leave the security of his home. The industrial nurse's knowledge that early return to work will assist him in accepting his disability can make his return to his job less harrowing. The details should be fully explored with the treating physician, the personnel department, and the plant physician. There will be specific directions regarding any work limitations and any treatments to be given on the job. For example, if a patient has a colostomy he will be apprehensive about accidents and he may not be able, in the beginning, to work out a successful schedule. The nurse will therefore have on hand emergency equipment and see that the patient has the necessary privacy and time to discuss his problems.

She will know the intervals between treatments and regular checkups and see that the patient keeps his appointments. She will know what symptoms can be expected, such as nausea, skin color changes, etc., and will reassure the patient that these are temporary. She will also observe any untoward symptoms and will report these promptly to the treating physician.

She will at all times encourage self-help but will assist the patient when he needs it without encouraging dependency. This may mean that she will have to teach him to improvise. There are patients who become apprehensive if just the right kind of equipment and facilities are not available. Oftentime necessary treatments are so personal that the patient feels that his dignity has been assaulted unless the nurse can find just the right degree of impersonality and sympathy. Much of this can be allieviated by encouraging the patient to assume gradually the responsibility for his own daily needs. Older patients accustomed to a set routine must be helped to accept a rearrangement of their lives. This will take a great deal of patience on the part of the nurse.

Association with others who have the same problem is often a great help. The nurse will learn what agencies are available and what each can do. For instance, patients who have had laryngectomies can join the Anamilo Club composed of persons who have learned or are learning a new way of speaking. There is also the Amputee Club for men and women who have lost legs or arms. Excellent teaching clinics are available in rehabilitation centers both governmental and private. Many of these have outpatient departments which permit the patient to work while learning to manage his prosthesis or to change his method of using his body muscles. Although most of these agencies are known to social service departments of hospitals or to the Visiting Nurse Services, the industrial nurse may be the person who will encourage and direct the patient to the agency which can provide the most help.

In summary, the industrial nurse is an active participant in helping the cancer patient to return to a productive and satisfying life. She will give him assurance and hope, help him to participate and cooperate in his own treatment, and assist him in his readjustment to work life by encouraging self-help and acceptance of change in his life pattern.



200,000 volt x-ray machine.

Many cancer patients receive treatment on an out-patient basis and continue to work during the time of treatment. Industrial nurses who have the important responsibility of helping to rehabilitate these patients will find in this report much helpful information about recent trends in the treatment of cancer by

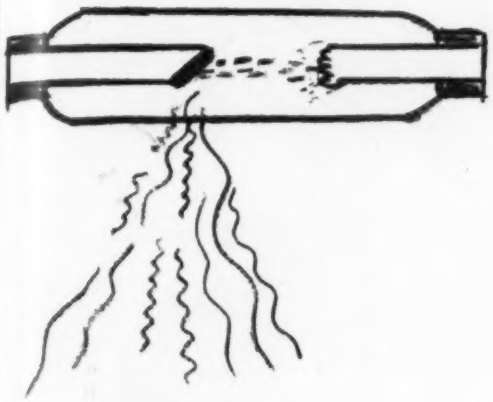
Radiotherapy

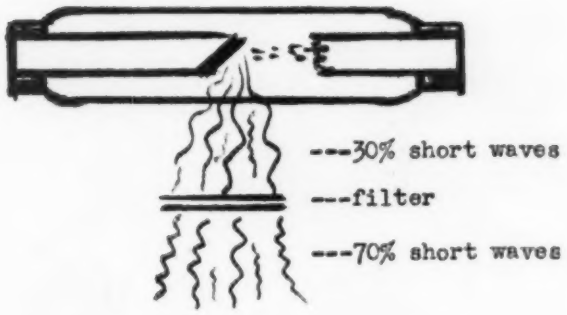
by George P. Koeck, M.D.
Director of Radiotherapy at St. Michael's Hospital and of the Black-Stevenson Therapy Center in Newark, N. J.

THE purpose of this report is to acquaint you with the present day methods of radiotherapy. These consist chiefly of x-ray, in the form of energy created by an x-ray machine, by radium and by radioactive isotopes. We shall endeavor to determine and display exactly those effects of x-ray, radium or radioactive materials when applied to patients. Many of the reactions that are created are normal, expected and looked for, such as skin reactions which occur over areas that are treated with intensive doses of x-ray. These reactions are temporary and usually clear in a period of three to four weeks. Some nausea may develop after therapy, perhaps in 15 to 20 per cent of the patients. The site of therapy sometimes dictates whether or not nausea will develop. If an area over the epigastric section of the body is treated with x-ray, nausea is more apt to develop. Nausea can be controlled with proper diet, hygiene, general body care, and with such drugs as thorazine, vitamin B6 intravenously or by mouth, bonamine, merezine, and so forth.

An x-ray beam is nothing more than a beam of energy. It is a beam that is created in an x-ray vacuum tube. An x-ray tube is nothing more than a glass vacuum and through this vacuum electrons or electric current is passed. We mention these facts so that the x-ray energy beam may be more accurately defined and understood. Electrons are individual particles of an electric current. If these electrons are passed rapidly across the vacuum tube, they strike an object, the anode, in the tube and in so striking the force and energy of the electrons is converted into another energy, namely an x-ray beam. These x-rays that are formed, however, are of different wave lengths; some are short, some are long, some are intermediate. The short wave x-ray beam is a penetrating one, one which may go through the body; while a long wave x-ray is one that penetrates only parts of an inch into the body. We therefore have created various forms of x-ray wave lengths and we can choose what we want; depending on the type of the x-ray machine, we have either long or short waves. A wave length that will be necessary to treat a tumor deep in the body would require more short waves, while a tumor superficially located

PRODUCTION OF X-RAYS



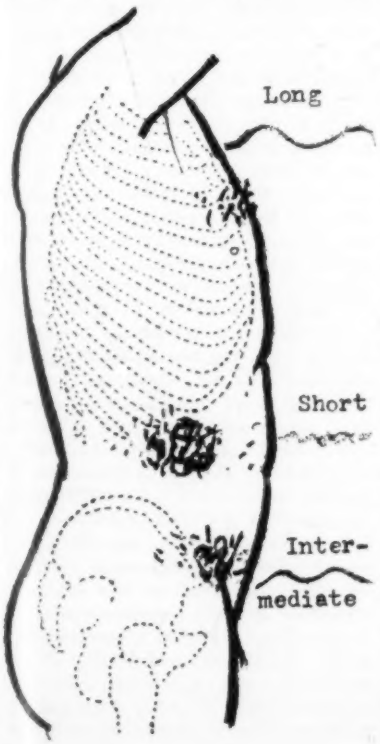


FILTER EFFECT ON RADIATION BEAM

Drawings by Dr. George P. Koeck, M.D.

on the body, such as on the skin, would require long wave lengths. For the short wave length type of energy we have the high potential, the high kilovoltage machine such as the 250 KV machine, the 1,000,000 and 2,000,000 volt x-ray machine, radium or radioactive cobalt. For superficial therapy we have the 80 KV, 150 or 100 KV machines.

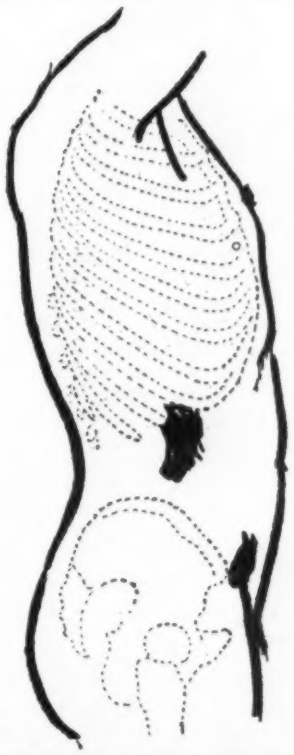
In addition to the above method of therapy, interstitial forms of treatment are available whereby the active source may be directly inserted into the tissue that is to be treated. This is rendered in the form of radium needles or radon gas in small seeds, or some of the newer radioactive isotopic material, preferably radioactive gold or radioactive cobalt.



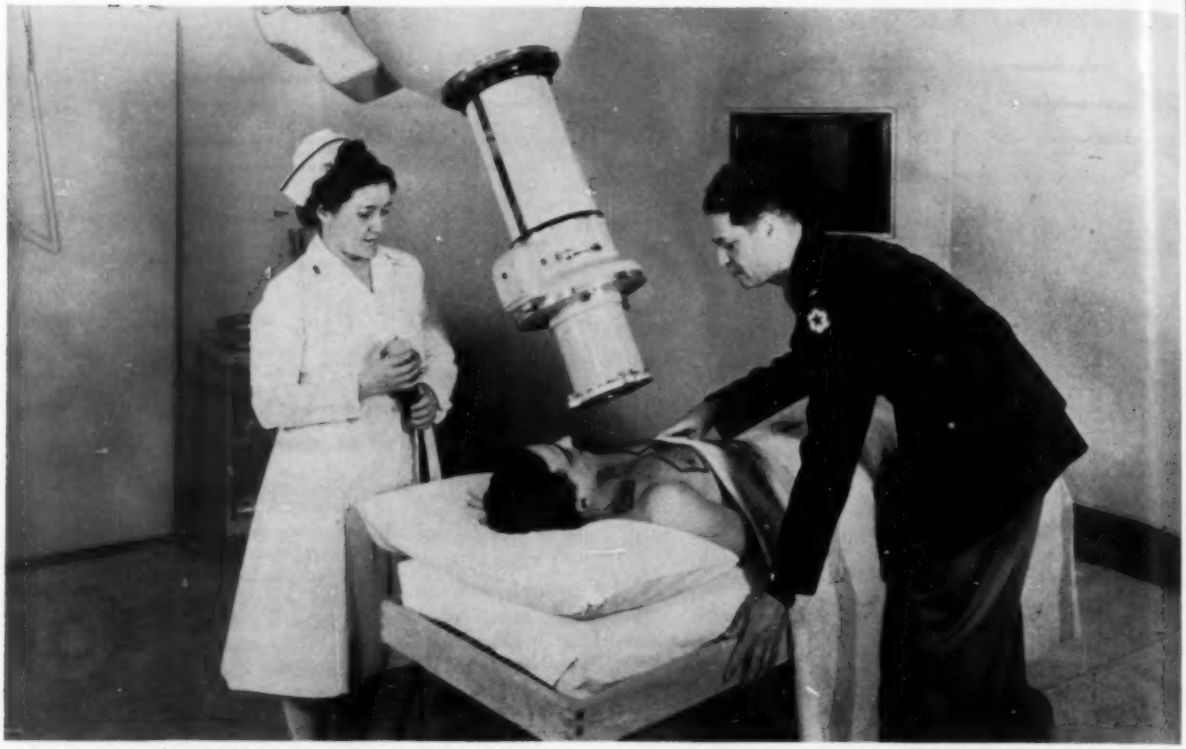
Thus we have at our disposal various forms of energy. Some of this energy is created in x-ray tubes; some of it is found naturally and purified, such as radium; some is made in atomic piles and made radioactive, such as radioactive cobalt, phosphorus, iron, iodine, or gold. Each of these can be used more adequately for that specific case and that specific tumor, depending upon the nature of the growth, type of tissue, and its position in the body. When a patient, therefore, presents himself or herself for therapy many things are necessary; an adequate diagnosis must have been made, the type of tissue and cell closely and adequately studied, location in the body definitely determined and then a plan of treatment outlined whereby one of the methods or perhaps a combination of the methods outlined above are applied to the body covering the lesion. A certain dosage of energy must be delivered to the area which is being treated. Not only the amount of energy or radiation but also the period of time in which it is given is important, so a patient submits himself or herself frequently or less frequently, depending upon the factors just discussed. It usually requires four to six weeks on an average case for complete therapy.

Not all types of carcinoma are equally amenable to radiation therapy. As a rule that type of cell which is dividing frequently, cells having frequent mitotic changes, and the cells that do not live very long are most readily amenable to radiation reaction. This includes the skin and all its appendages such as the lining of the oral cavity, the tongue, the tonsil, the floor of the mouth, the larynx, the sinuses about the head, the skin itself in any portion of the body, the cervix, the vaginal canal, the anal orifice, and some of the blood-forming organs such as the bone marrow itself, growths of the spleen, or the lymphatic structures of the body. This would include, roughly, carcinomas beginning first on the skin, carcinoma of the cervix, carcinoma of the uterus, all the carcinomas about the head such as in the tongue, on the floor of the mouth, the tonsil, the nasopharynx, the pharynx, the sinuses, the leukemias, the lymphomas, and so forth.

There are many cases of carcinoma in which combined therapy is most useful, that is, surgery and x-ray therapy combined; probably the most prominent type of lesion that would qualify for this type of treatment would be carcinoma of the breast. In most cases, carcinoma of the breast first is removed surgically



VARIOUS TUMOR SITES



In this picture the 2,000,000 volt x-ray machine is shown in use. (Photographs by courtesy of General Electric X-Ray Corp.)

and then post-operative radiation is applied over the operative area and also to the adjacent areas where lymphatic spread may have occurred. In carcinoma of the body of the uterus, radium or x-ray therapy may be applied first, and then the uterus may be removed afterward; or it may be just reversed, the surgery done first and the x-ray or radium done later on. As a rule the radium is given first, however, because the results appear to be better with radium first and surgery later. Very frequently, in carcinomas about the head and neck, when recurrence is present after primary surgery, irradiation therapy is the method of choice. Most carcinomas arising about the oral cavity are curable just as readily with radiation as they are with surgery. Depending on the site, the accessibility for surgery and many other factors, one type of therapy may be instituted before the other. As a rule, a close co-operation between the surgeon and the radiotherapist is present in treating tumors of this area. The best results are obtained by this method of therapy.

As in all forms of cancer treatment, the smaller the lesion and the more localized it is the better the chance of cure. This applies to radium, x-ray, all the radio-isotopes, as well as it does to surgery. Therefore, it is most essential that with proper education and proper observation both in the nursing and in the medical fields, cases or suspected cases of carcinoma are sent for a diagnostic biopsy as early as possible so that the proper method of therapy may be instituted early.

In reference to radioactive isotopes, any element may be made radioactive. By artificial radioactivity we mean an element placed in an atomic pile where neutrons being emitted from the atomic pile are driven into the nucleus and the very structure of the elements being made radioactive. In this way it changes the normal equilibrium of the number of charges within the nucleus of the element; the element, therefore, ends up having a greater mass and a greater weight than it had before because neutrons have been introduced into its nucleus. However, the atom that has been made radioactive has a tendency to return to equilibrium, and returning to equilibrium it must give off some of the new mass, some of the neutron that has been introduced into its body. The neutron, therefore, in breaking up releases much energy plus a positive charge and a negative charge. The energy which is released in this breakup is given off in the form of a radioactive wave length or a gamma x-ray. Some of the elements that are made radioactive may give off only alpha particles; others may give off beta particles. Specifically in the case of cobalt, cobalt gives off a gamma ray which is very similar in structure and in effect to radium itself.

We can take large masses of cobalt, put them in an atomic pile, have them made radioactive, and then use this large mass of material, which gives off gamma rays similar to radium, in the same way as we would use radium. There is one big advantage, however, and that is that the amount of the mass, the intensity that we can develop with radioactive cobalt is much greater than we could ever attain by using many radium sources. When cobalt is fully radioactive, it physically has the form of about an ordinary five-cent piece, but is only about one-fourth as thick. Usually there are from four to six of these small wafers and these are placed in a large head or container for the cobalt; in this container they are placed on a wheel, the wheel being turned to an "on" and "off" position whenever therapy is desired. Since several wafers of cobalt are made radioactive, many large sources can be used throughout the world in giving treatment. There would not be enough comparable radium to give a similar amount of treatment because of its scarcity. The effect that we are most concerned about is the therapeutic effect on cancer cells. The chief advantages clinically in radioactive cobalt are: (1) It causes very little skin reaction in comparison to a 250 KV x-ray; consequently, much more can be given to the skin than

would be possible with the conventional x-ray therapy machine, (2) It has much less effect on bone, so treatment through bony areas with less reaction in bone is possible. This is important about the head and neck where many bones are present, and about the pelvis where the hip and the pelvic bones are not affected half as much.

Another chief effect of radioactive cobalt is that of penetration. With radioactive cobalt greater doses are delivered in deeper portions of the body, so that it is possible with this means of treatment to deliver a tumorcidal dose in the mid portion of the body with only superficial skin reactions. Theoretically, it is possible that many patients would have an adequate treatment to a deep-seated lesion with this method of treatment; while with the conventional type of treatment, it would not be possible to deliver all that is necessary to eradicate the tumor completely. Another added feature with radioactive cobalt is that there is very little general body reaction; nausea, vomiting and all the other side reactions are rare. Taken as a whole, radioactive cobalt is a new, modern, up-to-date method of treating many lesions of the body. It lends something to that type of lesion that is deep in the body, to that type of cancer which is surrounded by bone, it helps that type of patient who may become ill, and it is possible to deliver a tumor dose almost any place in the body with very little general or local reaction.

Finally, the question arises as to what might happen when this radiant energy enters living normal tissue. The most fundamental portion of any structure is the atom, and the atom which comprises any portion of living tissue is composed of a positively charged nucleus and some negatively charged ions which are in equilibrium with the nucleus. A beam of energy entering into such an atom disturbs and breaks down the equilibrium of that cell. The cell becomes either positively charged or negatively charged, depending upon whether a negative electron is removed from the circuit or the nucleus itself is disturbed. When this living cell becomes ionized, either positively or negatively, certain definite chemical changes occur within that cell. It is these chemical changes which may be so severe that they will cause immediate destruction of the cell or only partial injury. However, repeated insults of the same sort cause repeated chemical changes which eventually will cause destruction of the cell.

In conclusion, many forms of radioactive materials are used in the treatment of cancer. The x-ray machine from the 80 KV machine up to a 2,000,000 or a 3,000,000 volt x-ray machine, radium in the form of needles, radon in the form of gas, radioactive isotopes especially in the form of radioactive cobalt, gold, phosphorus, and iodine are definitely used in the treatment of cancer.

These forms of treatment are applied specifically to those areas of the body where they are best suited. There are many structures of the body which are best treated radioactively; some of these are the actively dividing and developing structures of the body such as the bone marrow, the skin and its appendages and the lymphatic structures of the body. Radiation therapy may be sufficient in itself to cure many of the above lesions, or in combination with surgery it may produce a complete resolution of disease.

Radiation reactions occur; they are planned at times, they are temporary in character, they will heal. They are not the effect of abnormal therapy. General reactions are apt to occur in certain individuals, but adequate medical observation and care overcome these quite readily. It is still important, in order to cure most types of cancer, to have lesions started on the best type of therapy as early as possible. It is necessary to be constantly on the alert for the possibility of cancer anywhere in the body.

NURSING WORLD Reports . . .

(Continued from page 7)

of $360.00 a year is available for each legal dependent. This amount is to be prorated on the basis of the length of the traineeship. For names of participating schools, contact your state or district nurses' association. They have been sent complete details, according to announcement by ANA.

The Health Amendments Act also provides for grants to states under vocational education for practical nurse training.

Other measures approved by Congress this year include: (1) A total of $184,437,000 was approved for health research by the National Institutes of Health. (2) Women become eligible for social security benefits at the age of 62 and totally disabled persons can receive benefits beginning at the age of 50, under changes in the social security act. Monthly payment to permanently and totally disabled workers at the age of 50 becomes effective July 1, 1957.

Nursing Openings in WHO: The Pan American Sanitary Bureau, Regional Office of the World Health Organization, have advised us that their constantly expanding programs involve a continuing need for highly qualified candidates to fill positions in their field projects. Minimum requirements include a B.S. degree or scholastic equivalent in Nursing and advanced training in Public Health Nursing, Nursing Education or a specialized field of nursing for a specific assignment, plus substantial and varied experience. Assignments are for one year, initially, with the likelihood of extension in most cases. Duty stations would be in Latin America, and a knowledge of Spanish is essential for most positions. However, for a few of them, a knowledge of French or Portugese is desirable. The PABS/WHO nursing experts will gladly review a candidate's qualifications and advise whether she should proceed with language classes. Salaries average $4,800 per annum, with a limited number of very important posts carrying salaries of $6,000 per annum. In addition, there are liberal project service allowances covering the cost of living quarters, a $100 field equipment allowance and a 30-day per diem to cover installation expenses. Salary and allowances generally reflect net pay, since national income taxes are paid separately by the Organization. Further details are available upon request to the Personnel Officer at the Pan American Sanitary Bureau, Regional Office of the World Health Organization, 1501 New Hampshire Ave., N. W., Washington 6, D. C.

Workshops and Programs: For registered nurses working with or interested in rehabilitation, University of California Extension in cooperation with the U.C. L.A. School of Nursing announces a three-week Rehabilitation Nursing Workshop, October 29-November 16, in the Polio Building, Rancho Los Amigos Hospital at Hondo, California. Details concerning the California course may be obtained by writing to University of California Extension, Los Angeles 24, California.

The Training Program for Nurses in Cardiovascular Disease, held for the first time last winter at the University of Minnesota as a pilot study of the Public Health Service, Department of Health, Education, and Welfare, will be repeated at the University during the Winter Quarter, January 7 to March 23, 1957. The main purpose of the 11-week program is to offer nursing leaders a better understanding of new developments in the cardiovascular field and of how to apply these developments in their own communities. The course, which is offered to graduate nurses from various parts of the United States who represent different nursing fields, consists of actual care of patients, both in the hospital and at home, as well as seminar discussions and lectures. Miss Mary Ann McIntyre, nursing supervisor at the University's Heart Hospital for the last four years, will be coordinator of the Program. Applications may be made

(Continued on page 29)

This account of an acute case of congestive heart failure illustrates the ways in which

A Practical Nurse Assists Her Cardiac Patient

by Ruth Boyer Scott, R.N.

JUST after the telephone rang on the men's general medical ward the day nurses came on duty. "Mr. Henry is enroute by ambulance, having oxygen. Ward patient. Pre-admittance diagnosis, congestive heart failure. Age 60," the office said.

The practical nurse, Mrs. Wood, was immediately detailed to prepare his bed. In accordance with standing admittance orders in winter, she placed a hot water bottle at the foot of the bed. A red card, Remove Hot Water Bottle, was laid on the bedside stand. One of the dangers every hospital faces is the possible burning of unconscious or stuporous patients by hot water bottles. Removing the bottle would avoid this danger.

As usual, bed covers were untucked from the foot of the bed, and folded upward, so that they could be easily folded back when Mr. Henry arrived.

The medical resident doctor entered the ward and ordered side rails for the bed and an oxygen tent. "We don't know until Mr. Henry is examined how critical his condition is," the doctor told Mrs. Wood. "But we do know that oxygen will ease his breathing. We do know he is likely to be confused; the side rails will prevent his falling from bed and adding a fracture to his heart problem." He also ordered scales ready at the bedside.

As the ambulance stretcher was wheeled into the ward, Mrs. Wood saw a man with iron-gray hair, followed closely by a frightened-appearing woman of similar age. The doctor introduced himself to Mr. and Mrs. Henry. After looking closely at Mr. Henry and checking his pulse, he turned reassuringly to Mrs. Henry.

"We're going to put your husband to bed and make him more comfortable," he told her. "Why don't you go down to the hospital cafeteria and have a good breakfast while we're settling him?"

Mrs. Henry protested, chin trembling and on the verge of tears, "I don't want to— That is—"

The doctor understood she was afraid Mr. Henry might die at any minute. "I don't think we'll need to put Mr. Henry on the critical list. I'll talk with you after we've examined him. You're quite safe to take a half hour or hour for breakfast."

"Let me show you the way to the cafeteria," Mrs. Wood said, coming forward. "I'm the practical nurse who will be helping the professional nurse care for your husband." Smiling and relaxed, she guided the elderly woman to the ward door and her own ease was catching. She continued, "We'll have quite a few things to do for your husband right away, so do take a whole hour if you wish." It was a happier looking wife who turned to follow the directions to the cafeteria.

Back at the bedside, Mrs. Wood and the professional nurse together helped Mr. Henry onto the bedside scale. When fluid piles up in body tissues, this edema (the Greek word for swelling) adds to the patient's weight. Since an immediate part of the treatment of congestive heart failure is to remove if possible the excess fluid causing the edema, such patients are weighed every day. Although Mr. Henry was acutely ill, immediate weighing would provide a check on his progress. It took only a minute, as he was moved from the stretcher to bed, to note his weight.

Mr. Henry coughed a frothy sputum into his paper handkerchief. As Mrs. Wood took it and handed him a fresh paper wipe, she noted that the froth was pink-tinged. Mr. Henry explained, stopping after every two or three words for a breath, "I've had—a slight cough—for a couple—of days. Stayed home—from work—yesterday. Today—couldn't breathe—called doctor—"

As Mrs. Wood had noticed before, the sight of blood, even as a pink froth, and any difficulty in breathing are frightening. Actually, other symptoms than bleeding may be much more serious. But a little blood may serve a good purpose when it gets a patient to a doctor.

Because the fluid piled up in Mr. Henry's lungs, when his heart didn't pump his blood properly, he had less lung area for breathing. His shortness of breath was the result. Taking a mouth temperature would add to his breathing distress and would be inaccurate if his mouth was dry or he couldn't keep his lips closed, so the nurse took a rectal temperature. It was normal: 99° F. His pulse was 96, his respiration 24.

Meanwhile, the doctor found an admittance blood pressure of 210/120. Mr. Henry's pressure was abnormally high. Hypertension is the medical name. Mr. Henry admitted that he hadn't seen a doctor for a couple of years. The only complaint he'd had was a little heaviness or swelling in his legs, which went away at night. "My age," he shrugged.

If Mr. Henry had had the annual health examination which becomes most important for anyone 40 or over, his doctor would have discovered the rising blood pressure before the swelling began.

Offering a clean laboratory cup, Mrs. Wood asked the patient to expectorate. This specimen was sent to the laboratory. The report was negative. However, a check-up is important. A great many cases of tuberculosis in older people went undiagnosed not many years back; the patient's cough was shrugged off as "cigarette cough" or chronic bronchitis. Meanwhile, the grandfather or grandmother might infect their children and grandchildren, or the people they worked with. Pneumonia, also, might have been part of Mr. Henry's illness.

Mr. Henry was given a urinal, and asked for a specimen for the laboratory. Later, when he had his first bowel movement, the nurse would send a stool

specimen for routine examination.

The two nurses helped Mr. Henry with high cardiac position. That is, he was sitting up in bed, to give his lungs the most room for expansion. Three pillows were arranged behind his back, and another pillow supported each arm. An oxygen tent was arranged over his head, and carefully tucked in.

Special types of hospital beds which raise the patient's hips, as well as the back, put a cardiac patient more nearly in the sitting position, with knees bent. At home, a nurse can improvise a sitting position with a breadboard or inverted chair to give back support. A roll under the knees removes strain. But care must be taken that knee support doesn't cut off circulation at the knees, and increase the edema or swelling of the ankles and the risk of blood clots.

Often, today, the doctor prefers to have the cardiac patient sit in a chair. This position may be more relaxing than a propped-up-in-bed one.

As Mr. Henry was examined, the doctor noted that fluid had accumulated in his abdomen. This ascites or dropsy (to use the old word) can increase to the point of unpleasant pressure. Then it can be drawn off through a needle.

The doctor's orders included:

Medications: emergency drugs to improve the heart function. Digitalis in some form is an old standby still in common use.

Diuretics to increase the output of urine.

Water as desired, encourage to 2000 c.c. liquids daily.

Low-sodium (low salt) diet, soft, 6 small feedings daily.

Measure liquid intake and output.

Bed rest; feed meals.

Weight daily.

Oxygen as needed.

When Mrs. Wood brought the first mid-morning food, a half glass of grapefruit juice and a slice of special cardiac bread and sweet butter, Mrs. Henry looked at her in some alarm. "Nurse," she said, "when my father had heart trouble and dropsy, the doctor would only let him take a single swallow of water. I remember how he suffered with thirst. Are you sure Mr. Henry should have that juice?"

"Yes," the nurse explained. "It's the doctor's orders that Mr. Henry's to have all the water and liquids he wants. But he's having a low-salt diet and this is sweet butter with no salt in it, and a special cardiac's bread, made without salt. We know today that salt binds water. If your husband gets almost no salt—just what's natural in selected foods—the water won't pile up in his legs or abdomen or chest."

For the first two days, while Mr. Henry was in the oxygen tent and quite short of breath, the nurses fed him every mouthful he ate. Each motion a person makes calls for effort by the heart, and his heart needed sparing. But when he was feeling better on the third day, and the oxygen tent was moved to the corner of the ward where he could see it was ready if he needed it, Mr. Henry protested. "Let me feed myself," he begged.

Sometimes a patient frets over being fed, and will use less energy to feed himself. In other cases, a person may enjoy the return to babyhood and lie passively while someone in the family, or a nurse, feeds him when he would be better off for making this effort. As this is a matter for the doctor to determine, Mrs. Wood said, "If you'll wait a bit, I'll ask the nurse to phone the doctor right now and see whether he thinks it's best for you."

The doctor said, "Mr. Henry can feed himself—with help." As he was now on light diet, this help meant that Mrs. Wood cut his meat, buttered his bread, poured tea into his cup. She sat quietly by, noticing where she could spare him effort, but she let him actually use his own fork and spoon.

"I'm getting sick of this saltless food," he protested. "I always was a heavy salter. And now I can't have ham or potato chips or salted crackers."

She explained again, "Salt binds water, and at least you're lucky on today's low-salt diet that you can drink all the water you want. The dietitian will talk with Mrs. Henry some day about cooking for you. Actually, it's the sodium part of the sodium chloride which makes the trouble. Just be sure you don't take any soda bicarb at home for stomach gas."

"Is that so!" Mr. Henry said, amazed. "Does that mean I can't have soda biscuits, either?"

"You sure shouldn't nor any salty toothpaste. But think of all the good yeast rolls you can have."

As part of the daily care while Mr. Henry was on bed rest, the nurses changed his position every two hours while he was awake. This helps to prevent the skin, which is tightly stretched by edema, from breaking down in sores. It also helps keep liquid from congesting in any one part and causing more trouble.

To spare his heart, his daily bed bath was followed by his weighing and a new position. His back rubs were given with another new position.

His daily intake showed about 2000 c.c. (2 quarts) and his output ran 3000 c.c. (3 quarts). This meant he was eliminating an extra quart of accumulated fluid almost every 24 hours. This quickly showed in a weight loss, for one quart of fluid weights about 2 pounds. For accuracy, weighing was always done at the same hour, on the same scales. His frothy sputum stopped, he breathed easier, the swellings went down.

As Mr. Henry improved, he objected to the saltless taste of things, so the doctor ordered a salt substitute for him to try. Many possible substitutes for salt have been proposed in the past; some were harmful, others didn't taste much like salt. For a while, Mr. Henry liked to use his salt substitute. He gradually got used to herbs and natural flavors. As the dietitian told him, using extra salt is a learned habit. Some primitive people don't use it.

Mrs. Henry was given a cardiac (low sodium—low salt) cookbook prepared by the American Heart Association. There are other free ones and some for sale, featuring low-sodium meals and recipes. She liked the idea of baking bread again, after years of bakery products, so she studied the bread recipes.

The doctor wrote daily orders about activity. At first, Mr. Henry sat on the side of his bed, supported by Mrs. Wood, and let his feet swing for a half hour. The next day, he was allowed to have his bowel movement on a bedside commode. Having to use a bedpan may be a greater heart strain than using a commode, so this is often the first activity. "You can make a commode for home use quite easily," the nurse told Mrs. Henry. "Whether it's a bedpan on a chair, or a regular toilet seat set into a chair, with a bucket beneath, it's the idea and the position which help."

After Mr. Henry was able to sit up in a chair for an hour without strain, the doctor allowed him to help with his bath. His chair was put in front of the wash basin. He gave himself his entire bath except his back. Mrs. Wood washed his back, because this takes the most strength. She also combed his hair and continued to give him backrubs and afternoon care.

Mr. Henry began to talk about going home so he could get back to his bookkeeping job. "I just need to work five more years, to get my full pension," he said.

Today, rehabilitation is an important part of the care of heart patients. Men who have been laborers may learn to do less strenuous work. Housewives are shown how to make a "cardiac kitchen" with pots and knives within arm reach. Some heart patients even may drive cars, if their trouble, like Mr. Henry's, doesn't involve sudden attacks of helplessness without warning.

Mrs. Wood listened when he talked of his plans and encouraged him to continue with his diet, his medicines, and regular visits to his doctor. Now that she had helped nurse him through his acute congestive heart failure, her most important duty was to build his determination to live the program which might prevent his ever having a similar illness.

THE BOOK SHELF

Anna V. Matz, R.N.,

Public Health Nursing Consultant,
New York City Department of Health

Our Blind Children—By Berthold Lowenfeld, Ph.D., Superintendent, California School for the Blind, Berkeley, California. With a Foreword by Herbert B. Stoltz, M.D. Charles C. Thomas, Publisher, Springfield, Illinois, 1956. 205 pages. Price $5.50.

Many anxieties beset parents of a blind child. In addition to the problems of normal physical growth and development there is the additional one of acceptance of a handicapped child. It takes great courage, sympathy and understanding to help a blind child develop his capacities. The young child who cannot see needs the love and security of family and help to become self-sufficent. This causes parents to become confused concerning their ability to bring up a blind child and how they can fulfill his physical, emotional and social needs. The aim of this book is to guide parents and give them specific help with problems. The author has spent many years in the education of blind children and has the interests of mothers and fathers at heart.

Perhaps the most significant features of this book are the many practical suggestions and the help that is given in the "growing up" process and the contribution that parents can make to a happy childhood. Questions that have been asked by parents of blind children are answered honestly and supported by specific reasons.

The chapter on "Attitudes of Parents" is especially significant to professional health workers in understanding the deep-seated responses that overtake parents when such tragedies as blindness occur in families.

There are twelve chapters, the last of which is an appendix concerning educational materials and organizations interested in the blind. The content of chapters includes the following:

I. To Parents; II. Some Facts You May Want To Know; III. You and Your Blind Child; IV. As Your Baby Grows; V. Growing Toward Independence; VI. Attitude of Parents; VII. Nursery School; VIII. Kindergarten; IX. School Age; X. Understanding Special Methods of Teaching; XI. Questions Parents Often Ask; XII. Appendix.

The book is the first of its kind on the subject. All health and educational workers interested in working with the blind will find the book a useful guide in understanding.

A Review of Nursing—With Outlines of Subjects: By Helen F. Hansen, R.N., M.A. Formerly Instructor, California Lutheran Hospital, Los Angeles. Eighth Edition. W. B. Saunders Company, Philadelphia, 1956. 758 pages. Price $3.75.

With a full curriculum in basic nursing it is not always possible to stress practical applications of scientific facts. For this reason, a great deal of learning has no meaning since professional nurses find it difficult to see relationships between the facts learned and their application to situations in nursing. *A Review of Nursing* is a book in outline form which enables the nurse to review facts and information for examinations including State Boards. Nursing principles are emphasized throughout as well as the public health aspects. Situational-type and single and multiple choice questions have been incorporated under each clinical area. There are no true-false type questions in this edition.

The content material is arranged according to the major clinical areas. It can thus be used effectively by students in connection with an ongoing course in a given subject. The answers to questions are listed in the back. While it is extremely difficult to keep materials up to date, supplementation is necessary in communicable diseases, obstetrical nursing and nursing of children.

The contents include the following: Chapter 1: Chemistry; Chapter 2: Anatomy and Physiology; Chapter 3: Psychology; Chapter 4: Nutrition and Diet Therapy; Chapter 5: Health of the Individual, Community and Family; Chapter 6: Pharmacology and Therapeutics; Chapter 7: Microbiology; Chapter 8: Medical Nursing; Chapter 9: Nursing of Communicable Diseases; Chapter 10: Surgical Nursing; Chapter 11: Obstetric Nursing; Chapter 12: Nursing of Children; Chapter 13: Nursing in Conditions of the Nervous System; Chapter 14: Historical Foundation of Modern Nursing; Chapter 15: Development of Professional Relationships; Chapter 16: Sociology.

Muscle Testing—Techniques of Manual Examination. By Lucille Daniels, M.A., Associate Professor and Director of Physical Therapy, Department of Allied Medical Services, School of Medicine, Stanford University, Marian Williams, Ph.D., Assistant Professor of Physical Therapy, Stanford University, and Catherine Worthingham, Ph.D., Director of Professional Education, The National Foundation for Infantile Paralysis, Inc. Second edition. Format and Text Illustrations by Harold Black. Anatomical Drawings by Lorene Sigal. W. B. Saunders Company, Philadelphia, 1956. 176 pages. Price $4.00.

Since World War II, extensive strides have been made in developing physical medicine. Many individuals confined to a life of invalidism were found to have undeveloped capacities to become self-sufficient. This marked the beginning of a new era in rehabilitation.

Today, rehabilitation begins with the onset of every type of illness.

This publication on muscle testing procedures is limited to an understanding of techniques and to an interpretation of grading. It is concerned with muscle function, joint range and nerve distribution. All this information is essential to the physician for treatment of muscle dysfunction. The physiotherapist, the professional nurse in the hospital or public health agency also needs to have this information if she is to help with the prescribed exercises and treatments.

The book is well illustrated with graphs and diagrams supporting the description of muscles and interpretation of the range of motions. The format is excellent since it is in concise outline form and lends itself to a quick grasp of fundamentals. Its value is unquestionable, particularly to physiotherapists, physicians and nurses working in physical medicine and to public health nurses working with orthopedic patients in homes and clinics.

NURSING WORLD Reports . . .

(Continued from page 25)

to the University of Minnesota School of Public Health. Early applications are urged, since the group will be limited to eight or ten nurses, drawn from consultant, supervisory and instructor positions. Candidates to represent the various fields of nursing will be accepted from: hospital, industrial, nursing education and public health. Information on traineeships for the Program can also be obtained at the University of Minnesota School of Public Health. The Public Health Services will give consultant and financial assistance to the program.

Michigan's first experimental school of practical nursing was formally dedicated on September 9, 1956. The Shapero School of Practical Nursing, affiliated with Detroit's Sinai Hospital, is said to be one of only three research and demonstration schools in the United States, financed by a $500,000 grant from the Nate S. and Ruth B. Shapero Foundation and the Cunningham Drug Company Foundation. The new school's first class of students embraces an age range from 18 to 51 and includes men as well as women, from every race, creed and walk of life.

Announcement of a $9,551 grant to Loretto Heights College, Colorado, to expand psychiatric teaching in the basic collegiate nursing program was made recently by Sister Frances Marie, president of the College.

New Brochure for Reserve Officers: "Today's Decision, Tomorrow's Reward," a new brochure which describes the opportunities and the need for nurses and medical specialists in the U. S. Army Reserve, is now available from the Office of the Surgeon General, Dept. of Army, Washington, D. C., or from the Office of the Surgeon in each Army headquarters. The new brochure is designed to emphasize the role of nurses, dietitians, and physical and occupational therapists who desire to remain in civilian practice and at the same time prepare themselves for leadership positions in the Army Reserve in the event of national disaster or mobilization.

People: Colonel Florence A. Blanchfield, World War II chief of the Army Nurse Corps, now retired and living in Arlington, Va., has been honored in the naming of the perpetual trophy for the All-Army Women's tennis singles championship. The first winner of the trophy was Capt. Rachel Adams, Army Medical Specialist Corps physical therapist stationed at Brooke Army Hospital, Fort Sam Houston, Texas.

Miss Mildred Newton, director of the School of Nursing at Ohio State University, has been appointed civilian consultant on nurse education to the Office of the Surgeon General of the Army. This appointment, the first to be made exclusively for the field of Army Nurse Corps post graduate and professional instruction, is in keeping with the greatly increased educational activity within the Corps. Miss Newton will work directly with Major Marjorie Lindau, Army Nurse Corps officer heading the section on nurse education in the Education and Training Division. With the holding of more workshops and similar training events in specialties and disaster nursing, it is anticipated that this fall will be one of the busiest years in the Corps history.

Mrs. Virginia C. Kilander, R.N., has been appointed by the Minnesota Department of Public Welfare as the Director of the pre-service Pilot and Evaluation Program for psychiatric aides. The 15-month program is planned to combine instruction in social sciences at Gustavus College, at St. Peter; practical nursing at St. John's Hospital in St. Paul, Minn.; and psychiatric nursing at St. Peter State Hospital. Mrs. Kilander has been nursing education director at Rochester State Hospital; assistant to the psychiatric nursing consultant, Minnesota Department of Public Welfare; and instructor in nursing arts at the Swedish Hospital School of Nursing, Minneapolis. Other appointments for the Evaluation Program include: Mrs. Wilma Schmidt, who is assistant director for psychiatric aides and instructor in the St. Peter sequence; and Mrs. Barbara Grounds, who is instructor in the St. John's sequence of the Pilot Training and Evaluation Project for psychiatric aides.

Conventions: The New York State League for Nursing will hold its biennial convention at the Hotel De Witt Clinton, Albany, New York, on October 9-10, 1956.

For the third year, the American College of Surgeons are inviting all nurses to the special Program for Nurses in connection with the four-day Sectional Meeting of the College, in New Orleans, Louisiana, February 4-7, 1957, at the Jung and Roosevelt Hotels.

The State Convention of the Arkansas State Practical Nurses' Association will be held on October 31-November 3, 1956, at the Ward Hotel in Fort Smith, Arkansas.

The New York State Association of Industrial Nurses will hold its Fifth Annual Conference at the Hotel Syracuse, Syracuse, New York, on November 2-4, 1956. The program of events is as follows:

Friday, November 2nd

8:00 A.M.

Registration

10:00 A.M.—12:00 Noon

Topic: "Medical Therapy"

Moderator: Waneta Watrous, R.N., Rehabilitation Nurse - Counsellor, Liberty Mutual Insurance Co., Syracuse, N. Y.

Speakers: Howard Albright, M.D., Associate Medical Director of Research, Bristol Lab., Inc., Syracuse, N. Y. Paul Bunn, M.D., Assistant Professor of Medicine, State University of N. Y., Upstate Medical Center at Syracuse.

2:00—4:00 P.M.

Topic: "Industrial Hygiene for the Industrial Nurse"

Moderator: Mildred B. Holt, R.N., Head Nurse, Twin Coach Company, Buffalo, N. Y.

Speakers: Dr. David Fassett, Director, Industrial Hygiene Lab., Eastman Kodak Co., Rochester, N. Y. Erica Koehler, R.N., Nurse Consultant, N. Y. Dept. of Industrial Hygiene, New York, N. Y.

7:45 P.M.

Tour of The Gordon Hoople Hearing and Speech Center

Saturday, November 3rd

9:30 A.M.—11:30 A.M.

Topic: "Know Yourself"

Moderator: David H. Goldstein, M.D., Medical Director, *The New York Times*, New York, N. Y.

Speakers: Director of Nurses from School of Nursing (to be announced later). Quentin D. Schubmehl, M.D., Consulting Psychiatrist, Endicott-Johnson Hospital, Johnson City, New York.

2:00 P.M.

Social Hour—Foyer of Grand Ballroom

7:30 P.M.

Banquet—Grand Ballroom

Presiding: Katherine F. Sherlock, R.N., R. E. Dietz Co., President of C.N.Y.A.I.N., Syracuse, N. Y.

Speaker: Rev. Herbert J. Clancy, S. J., Professor of History and Chairman of History and Political Science Depts., LeMoyne College, Syracuse, N. Y.

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WANTED: General Duty Nurse for 7-3 and 3-11 shifts, salary of $220.00 per month with complete maintenance. Also opening for 3-11 Supervisor at salary of $320.00 per month with partial maintenance. All positions carry a 5½-day work week with paid holidays and vacations. Contact Administrator, Howard County Hospital Foundation, Big Spring, Texas.

NEED—Supervisors of Medicine and Surgery, Supervisor of Operating Room, and general staff nurses for General Hospital, Washington, D. C. Apply Director of Nursing, Sibley Memorial Hospital, Washington 2, D. C.

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WANTED—Qualified registered nurse for surgical floor supervision, and one for general staff position. Excellent salary. Box N 10, Nursing World, 41 E. 42nd St., New York 17, N. Y.

STAFF NURSING—Annually $3670. 40-hour week. University and in-service opportunities. For personnel policies, blanks, write Director of Nursing, D. C. General Hospital, Washington 3, D. C.

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